

### **Remarks**

After careful consideration of the outstanding Office Action, this application has been amended accordingly, and favorable reconsideration on the merits thereof is at this time respectfully requested.

The Examiner's attention is directed to amended claim 1 and the last two limitations that have been added thereto, namely,

the transmission element (2) being in the shape of an exponential horn, and the transmission element (2) having a larger diameter at the exit boundary surface (19) than at an axially opposite entry boundary surface (20).

The latter-quoted limitations appear in respective claims 11 and 10 which have been cancelled by this Amendment. As now amended, it is respectfully urged that amended claim 1 finds absolutely no counterpart in the prior art and cannot be properly "rejected under 35 U.S.C. 103(a)" as set forth by the Examiner in paragraph 4 bridging pages 7 and 8 of the Office Action based upon the patents to Krause (5,545,124), Favre (5,160,336) and Koehler (4, 972,826) "further in view of Examiner's Official Notice (EON)."

At the bottom of page 8, under the caption "In Reference to Claims 10 and 11," the Examiner admits that the subject matter of now cancelled claims 10 and 11 finds no correspondence in the Krause and Favre patents and refers back to the discussion of claim 9 and the patent to Koehler. The latter is expanded somewhat in the discussion of the Koehler patent in the first full paragraph at page 9. Irrespective of the Examiner's statements, neither the Koehler disclosure nor the Examiner's Official Notice suggest, teach or render obvious the last two limitations of amended claim 1. More specifically, the patent to Koehler does not disclose any transmission element in the shape of "an exponential horn" or a "transmission element (2) having a larger diameter

at the exit boundary surface (19) than at an axially opposite entry boundary surface (20)."

At column 2, lines 57 through 67 the patentee Koehler discusses only one "portion of the shock wave which interacts with the material of the plate-shaped member" and states the latter can either lag or lead "the remaining, non-interacting portion of the shock wave." The latter depends upon "whether the propagation speed of sound in the plate-shaped member is lower or higher than in the liquid." The pressure wave is, therefore, generated in two distinct parts and not "by an impact member (10) hitting a transmission element (2)," as recited in claim 1. Thus, the totality of column 2, lines 57 through 67 deals with "relative amplitude differences between the crests" which is "dependent on the difference between the areas of the interacting and non-interacting shock wave portions." The only change in amplitude is based upon "the thickness of the plate-shaped member," nothing else. Column 2, lines 57 through 67 makes no mention of any specific operative "variety of shapes, sizes and positions," particularly with respect to a transmission element in which the pressure wave is generated "by an impact member (10)" hitting the same (claim 1).

The Examiner also references column 3, lines 47 through 66 of the Koehler patent which begins by stating that the "plate-shaped member may have at least one opening in the region thereof traversed by the shock waves, and this opening may be centrally disposed in that region." Figure 9 discloses an opening (40) in a plate-shaped member (39) which, interestingly enough, has a smaller diameter at an exit boundary surface than at an axially opposite entry boundary surface. However, such an opening or hole (40) is designed for

utilization **only** with the generation of a shock wave "in a liquid-filled housing."  
(See column 1, line 10, et. seq.)

Apart from openings, the Koehler et al. patent states "the openings in the plate-shaped member may be sectors of a circle." (See column 3, line 54.)

Between lines 58 through 62, there is mention of "using a plurality of plate-shaped members disposed in succession" which has absolutely nothing to do with the subject matter added to claim 1 (or that originally recited in claims 10 and 11).

Lastly, mention is made of the plate-shaped members being "geometrically different and may consist of different materials" and might be "rotatable relative to each other."

There is absolutely nothing in the entirety of the Koehler et al. patent which supports the following sentence appearing at the mid-portion of page 8 of the Office Action:

Therefore, the shaping of the various elements used in configuring the pressure pulse is merely a matter of design choice and would be well within ordinary skill in the art.

The claims of the Koehler et al. patent are absolutely contradictory to the latter statement of the Examiner noting the last "means" limitation of claim 1 beginning at column 8, line 27 and continuing through column 8, line 44 and many of the dependent claims, such as claim 2 calling for the "plate-shaped member" as "having at least one opening in said region," claim 3 reciting "said plate-shaped member has a centrally disposed opening," claim 4 reciting "said plate-shaped member is a sector of a circle," etc. If "the shaping of the various elements used in configuring the pressure plate is merely a matter of design," claims 1, 2, 3, 4, etc. of the Koehler et al. patent would never have

been allowed/patented. Furthermore, the Examiner's statement is a conclusion ("merely a matter of design choice") but is unsupported by any sound reasoning on the part of the Examiner or some suggestion or teaching in the Koehler et al. patent. Accordingly, the paragraph at page 8 of the outstanding Office Action preceding the caption "In Reference to Claims 10 and 11" fails to render obvious the subject matter of amended claim 1.

Turning to the first full paragraph at the top of page 9 which is presumably the Examiner's views "Re claim 10" and "Re claim 11," the fact that "Koehler discloses that the intermediate and transmission elements may be arranged/ordered so as to make various shapes" does not render obvious making a transmission element "in the shape of an exponential horn" configured as recited in the last limitation of amended claim 1. The fact that Koehler et al. may disclose "producing a composite element" again has no bearing on the last two limitations of amended claim 1. Whether it is well known in the art and case law "to make multiple or a plurality of elements (e.g. a single unit)" also has no bearing on the last two limitations of amended claim 1. This leaves for consideration the last clause of the first full paragraph at page 9 stating that it is allegedly "well known in the art and case law to ... shape the transmission element in order to produce the desired result with regard to the pressure pulse profile." Once again, the latter quoted portion of the entire paragraph is a conclusion unsupported by sound reasoning or suggestion from the Koehler et al. patent. Contrary to the latter opinion, the European Examiner requested Applicant to present the subject matter of claim 10 into claim 1 to achieve the allowability thereof. Thus, the European Examiner considers the limitation "the transmission element having a large diameter at the exit boundary surface (19) than at an entry boundary surface

(20)" to be unobvious subject matter and a technical advance over known prior art. The latter in conjunction with the transmission element being in the shape of an "exponential horn" certainly produces "a desired result," but only a result novel and unobvious to Applicant herein.

Based upon the foregoing, there is nothing in the patent to Koehler et al. which supports the rejection of claims 10 and 11 as set forth in the Office Action. Accordingly, inasmuch as claim 1 has been amended to include therein the limitations earlier presented in claims 10 and 11, the formal allowance of amended claim 1 is considered proper and is respectfully requested.

Obviously, the allowance of each of the dependent claims of record is further respectfully requested.

New claim 13 has also been added and calls for "an impact member (10) for hitting against an entry boundary surface (20) of a transmission element (2) thereby generating extracorporeal pressure waves," etc. The "concavely outwardly opening exit boundary surface (19)" is also recited with respect to its configuration and the final limitation recites "impedance-adjusting means (5) provided contiguous the concavely outwardly opening exit boundary surface (19) of the transmission element (2) for improving the coupling of the pressure wave into the biological tissue."

The Examiner is urged to first fully consider that the medical instrument of claim 13 requires pressure waves which are generated by "**an impact member (10) for hitting against an entry boundary face (20) of a transmission element (2).**" The applied patent to Favre (5,160,336) and the patent to Haupt (6,413,230 - US equivalent of DE 197 25 477 A1 cited in International Search Report and current specification at page 1) are each representative instruments in which a pressure wave is "generated by an

impact member (10) hitting a transmission element (2)" (claim 13). These two patents are typical and either include a rounded, blunt or flat probe tip which do not focus the pressure wave, as is done in liquid-filled shock wave generators, such as disclosed in the Koehler et al. patent 4,972,826 or similar non-impact shock wave generators, such as disclosed in the applied patent to Krause (5, 545,124).

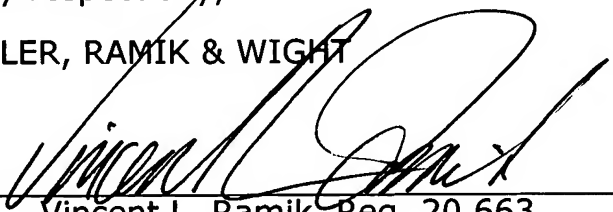
In view of the foregoing, the formal allowance of claim 13 and claims 14 through 16 depending therefrom is believed proper and is herewith respectfully requested.

In summary, the formal allowance of all of the claims of record as amendment and newly submitted herewith is respectfully requested.

Very respectfully,

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